

What is claimed is:

1. A subsurface video observation system comprising:  
a solid state imager having an operating mode wherein said solid state imager has substantial sensitivity to infrared radiation;  
5 video signal generating means for generating a video signal corresponding to the image formed on said solid state imager;  
mounting means for mounting the solid state imager on a watercraft so that the imager forms an image of an underwater area adjacent said watercraft; and  
a video display device arranged to receive said video signal and to  
10 display a visible image corresponding to the image formed on said solid state imager.
2. A video observation system according to claim 1 wherein said solid state imager is a charge coupled device.
3. A video observation system according to claim 1 wherein said solid state imager is sensitive to infrared radiation in the range of about 700 to about  
15 1400 nm.
4. A video observation system according to claim 1 wherein said solid state imager is also sensitive to visible radiation in the range of about 400 to about 700 nm.
5. A video observation system according to claim 4 wherein said  
20 solid state imager has a first operating mode wherein it is sensitive to both visible and infrared radiation and a second operating mode in which it is sensitive to visible radiation only.
6. A video observation system according to claim 1 wherein said mounting means are arranged to mount said solid state imager on the hull of said  
25 watercraft.
7. A video observation system according to claim 6 wherein a plurality of said solid state imagers are provided to enable viewing through the entire angle of 360° horizontally surrounding said watercraft.
8. A video observation system according to claim 6 further  
30 comprising rotating means for rotating said solid state imager relative to the hull of

said watercraft, said system further comprising indicator means for providing a visual indication of the direction in which said solid state imager is pointing.

5 9. A video observation system according to claim 1 wherein said mounting means are arranged to mount said solid state imager on an outboard motor attachable to said watercraft.

10. A video observation system according to claim 9 wherein said video display device is also mounted on said outboard motor.

10 11. A video observation system according to claim 9 wherein said motor is a trolling motor capable of being manually rotated relative to the hull of said watercraft.

12. A video observation system according to claim 9 further comprising a source of infrared radiation mounted on said outboard motor so as to direct infrared radiation to an area imaged by said solid state imager.

15 13. A video observation system according to claim 1 wherein said video display device comprises a liquid crystal display device.

14. A video observation system according to claim 1 further comprising a source of infrared radiation arranged to direct infrared radiation on to an area imaged by said solid state imager.

20 15. A watercraft having a solid state imager mounted thereon and arranged to image an underwater area adjacent said watercraft, video signal generating means for generating a video signal corresponding to the image formed on said solid state imager; and, a video display device arranged to receive said video signal and to display a visible image corresponding to the image formed on said solid state imager, said solid state imager having an operating mode wherein said solid  
25 state imager has substantial sensitivity to infrared radiation.

16. A watercraft according to claim 15 wherein said solid state imager is a charge coupled device.

17. A watercraft according to claim 15 wherein said solid state imager has a first operating mode wherein it is sensitive to both visible and infrared radiation and a second operating mode in which it is sensitive to visible radiation only.

5 18. A watercraft according to claim 15 wherein said solid state imager is mounted on the hull of the watercraft.

19. A watercraft according to claim 15 wherein said solid state imager is mounted on an outboard motor attached to the watercraft.

10 20. A watercraft according to claim 15 further comprising a source of infrared radiation arranged to direct infrared radiation on to an area imaged by the solid state imager.